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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,425	11/05/2001	Richard B. Bylsma	BYLSMA 13-12	6852

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EXAMINER

SIMKOVIC, VIKTOR

ART UNIT PAPER NUMBER

2812

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,425

Applicant(s)

BYLSMA ET AL.

Examiner

Viktor Simkovic

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-18, 20 is/are rejected.
- 7) ☒ Claim(s) 5 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by
Wilson et al. Wilson et al. teach an optoelectronic device, comprising:

a substrate having a first doped region adjacent a first outer surface and a second doped region adjacent a second outer surface;

a waveguide located in said substrate and located between said first outer surface and said second outer surface; and

a capacitor located over one of said first outer surface or said second outer surface.

See column 23, line 36 to column 25, line 25. See especially column 24, lines 22-25.

Regarding claim 3, Wilson et al. teach a laser having a gain region, a tuning region, an amplifier region and a modulator region.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. While Wilson et al. do not specify the structure of the capacitor, is well known in the art that a capacitor consists of two metallic plates with a dielectric located in between them. It would have been obvious to one of ordinary skill in the art at the time of the invention to use such a structure for the capacitor and official notice is taken. Likewise, the use of indium phosphide substrates as well as silicon dioxide or tantalum pentoxide as dielectrics for a capacitor are well known in the art and official notice is taken.0

Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. as applied to claim 1 above, and further in view of Taylor. While Wilson et al. do not teach a grating, Taylor does teach a grating for a waveguide device (See Fig. 3b). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a grating with the waveguide, since, as Taylor teaches, this would allow for the stabilization of the polarization.

Claims 15-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. as applied to claim 1 above, and further in view of Kawachi et al. While Wilson et al. does not teach an optical fiber connected to the waveguide and a detector coupled to the waveguide, such integrations are well known in the art and are

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taught, for example, by Kawachi et al. It would have been obvious to one of ordinary skill in the art to integrate the optical fiber and detector with the waveguide, since putting all the devices on one substrate would lead to a more robust device. Regarding claims 16-18 and 20, see comment made above for the relevant dependent claims of claim 1.

Allowable Subject Matter

Claims 5 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art of record fails to teach an optoelectronic device consisting of a waveguide formed on a substrate and having a capacitor on top to reduce cross-talk, having a gain region, a tunable region, an amplifier region, and a modulator region located in a n-type region on one side of the substrate while the capacitor is located on the other side of the substrate in an n-type region.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viktor Simkovic whose telephone number is 703-308-

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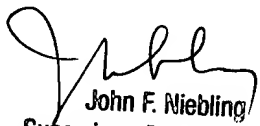
6170. The examiner can normally be reached on Mon - Fri, 9:00 - 6:00, except every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on 703-308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Viktor Simkovic
June 11, 2003



John F. Niebling
Supervisory Patent Examiner
Technology Center 2800